

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-000876**Date Inspected:** 24-Oct-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Shi Zhi & Li Gang**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Caltrans Mockup**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Mike Hasler was present to observe the fit up, welding and related activities associated with the fabricating of Caltrans Mock-up, 77M, 89M, 114M and U-Rib Trial Assembly, for the San Francisco Oakland Bay Self Anchored Suspension Bridge, at Zhenhua Port Machinery Company (ZPMC) facility on Changxing Island.

Item Description	WBS	Dwg No.	Status
1 Stiffener Plates	NA	NA	Machining Bevels
Mock-Up 89M, Stiffener Plates: Caltrans QA Inspector observed shop workers machining. Caltrans observed plate perimeter, weld bevels (45 degree) being machined, piecemark Gt-301-8A, GT-301-7B and GT-301-8A plate side (90 degree) to plate surface. The machined surface appeared to be smooth and uniform and, in conformance with the contract specifications.			
2 Skin Plate D	NA	NA	Work in Progress
Mock-Up 89M, Skin Plate D, Longitudinal Stiffener Plates: Caltrans QA Inspector observed flux cored arc welding (FCAW), splice plate root pass weld, joining piecemark mp534C-1 to mp534B-1 stiffener plates, in the flat position. The welder is identified as Mr. Lei Leihao, welder stamp 053619. The welder is using welding procedure specification WPS-B-T-2231-B-U3-F. Caltrans QA observed ZPMC Quality Control inspector, Mr. Zhan Chen Sun and ZPMC Certified Welding Inspector (CWI), Mr. Xu Le feng, monitoring welding activities at the workstation. Caltrans QA Inspector measured current welding parameters at approximately 335 amps, 31 volts and 335 millimeters per minute (mm/min) travel speed. Preheat and interpass temperatures were verified during welding activities. The preheat temperature prior to the start of welding measures more than 110 Celsius (230 degree Fahrenheit) but less than 232 Celsius (450 degrees Fahrenheit) during maximum interpass temperature verification. FCAW welding consumable is verified and identified as Supercored 71H, classification E71T-1, diameter 1.4 mm (.055 inches). Following digital			

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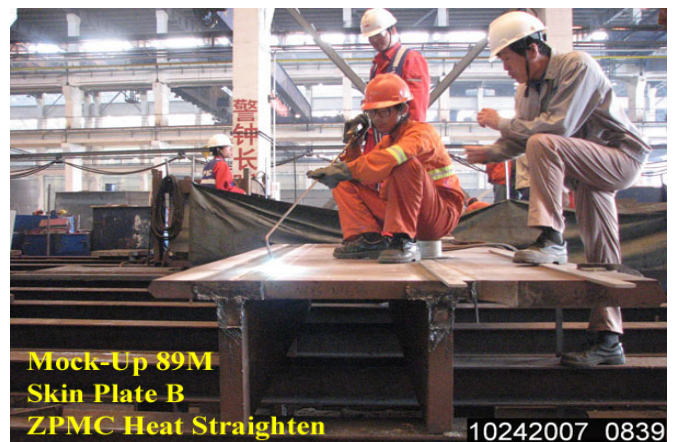
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picture illustrates welding in progress.



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| 3 | Skin Plate B | NA | NA | ZPMC Heat Straightening |
|---|--------------|----|----|-------------------------|

Mock-Up 89M, Skin Plate B: Caltrans QA Inspector witnessed the heat straightening of skin plate B assembly, per procedure HSR1 (CT)-124, Revision 0. ZPMC applied heat, with the use of a hand held oxygen/acetylene-fuel flame type torch. Caltrans Observed heat applied at three heat passes. ZPMC monitored the applied heat to the plate, with the use of a hand held device, identified as an infrared laser temperature gun. Caltrans QA Inspector randomly observed that the maximum heat being applied to the plate is approximately 580 Celsius. The procedure states, maximum heat to be applied, 650 Celsius. The heat straightening of the plate appeared to be in general conformance with the procedure and contract documents. Caltrans QA Inspector observed ZPMC QC inspector, Mr. Fu Yun Hong and Certified Welding Inspector (CWI), Mr. Xu Le Feng monitoring the heat straightening of the skin plate B assembly. Following digital pictures illustrate method and verification of the heat straightening of the plate.



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| 4 | OBG U-ribs | NA | NA | Practice welding |
|---|------------|----|----|------------------|

OBG U-Rib Trial Assembly: Caltrans QA Inspector observed ZPMC setting up practice u-rib trial assembly for practice welding. Caltrans QA Inspector observed that ABF representative, Mr. Peter Ferguson was present during the set up of the assembly. Caltrans QA Inspector met Mr. Ferguson. Mr. Ferguson stated that welding of the full size practice trial assembly would be performed sometime this week. However ZPMC has elected to practice on a smaller trial assembly, but as of now, has not set up this assembly to weld on.

Summary of Conversations:

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As identified within the contents of this report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Hasler,Mike	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer
